Simple and Simply the Best? Dublin in the European Spotlight

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Simply the best- Dublin score to quantify endoscopically the inflammatory burden in UC patients

Or

Simple and simply the best? Dublin in the European spotlight.

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For ages, clinical gastroenterologists have sought scoring systems to evaluate disease activity and predict disease course in patients with inflammatory bowel disease (IBD). Such scores should be simply applicable in clinical practice and best in terms of clinical relevance. Simple and best, what an oxymoron? The better and more sophisticated a score, the more cumbersome it is to use and the less likely doctors will consider it in daily practice. In clinical trials, the Mayo Score and the ulcerative colitis (UC) disease activity index have most often been applied. In these scores, patient reported outcomes, endoscopic findings and physician's global assessment are combined. But frankly speaking: who of us has ever used such scoring systems in daily clinical practice?

In recent years, the emerging concept and importance of mucosal healing have shifted the focus of scores more towards assessment of endoscopic disease activity. Here, several scores are available such as the Mayo endoscopic score, UC endoscopic index of severity or the Rachmilewitz endoscopy index. Despite being useful, these scores primarily focus on mucosal appearance and lack of consideration of disease extent. However, disease extent has been shown to be important in terms of risk for colorectal cancer or future colectomy rates. So, is it possible to score the burden of inflammation when this particular aspect is not taken into account? The importance to monitor this inflammatory burden has been increasingly recognized. Endoscopically assessed mucosal healing has been shown to be associated with better disease outcome (REF: *Journal of Crohn's and Colitis*, Volume 11, Issue 12, December 2017, Pages 1440–1448). Moreover, in a consensus paper, Peyrin-Biroulet and colleagues have suggested the following three domains to grade disease severity in IBD patients: (i) impact of the disease on the patient, (ii) measurable inflammatory burden, and (iii) disease course. [2] In order to quantify disease burden, the authors propose to measure 1) C-reactive protein, and to evaluate for 2) mucosal lesions, 3) upper gastrointestinal tract involvement, and 4) disease extent.

In this issue of the journal, [3] Glen Doherty and his group put out a novel score to assess inflammatory burden based on two of these 4 criteria: D-U-B-L-I-N or Degree of Ulcerative colitis Burden of Luminal Inflammation. Needless to say, this is just a terrific acronym! But what else to expect from authors from the city of James Joyce, Oscar Wilde and William B. Yeats. It is more than just a name, though. The DUBLIN score elegantly combines to key criteria for inflammatory burden, disease extent and mucosal appearance. For this, the score does not create new variables, it uses previously and widely established scoring systems, the Mayo endoscopic score (with values ranging from 0 to 3) and the Montreal classification for disease extent (E1-3). This is clever for two reasons: 1) most endoscopic scores lack of consideration of disease extent; and 2) the score remains as simple as it can get and can easily be determined during a patient encounter. Including disease extent makes particular sense since many studies have demonstrated the relevance of disease extent with regards to future colectomy and development of colorectal cancer. [4-6] But besides having a fancy name and being easy to use, a score has to fulfill one key criterion: validity. The authors nicely show that their score correlates with calprotectin levels and that higher values are associated with elevated CRP, increased risk of treatment failure and future colectomy. Indeed, DUBLIN performs better than Mayo endoscopic score and disease extent alone with regards to the association with fecal calprotectin. A score of 3 or more appeared to be an optimal cut-off to define high and low inflammatory burden.

So, DUBLIN, simple and simply the best? Let's put this into context. An AUC of 0.76 and 0.74 for the DUBLIN score still leaves room for improvement. The modified Mayo endoscopic score published by the Leuven group in 2015 is probably more accurate. [8] Still, it is limited by the necessity of being calculated and prospective recording. This makes it a probable tool

for clinical trials, rather than a measure, which can be readily applied in daily clinical practice. However, future studies need to show that the DUBLIN score is useful in prospective interventional trials. And it has yet to be determined whether therapies should be adapted based on inflammatory burden assessed by the DUBLIN score. Hopefully, this score will turn out to be an applicable longitudinal measure to predict cancer and dysplasia risk and be helpful – in the end - to personalize therapy for UC patients.

Dublin is most probably not the end of the road towards an ideal disease activity score in ulcerative colitis. Particularly in the light of emerging data regarding the importance of additional histological disease assessment. (REF: ECCO 2019 P205: The impact of the severity of microscopic inflammation at the time of diagnosis on UC-related outcomes during follow-up(). But it will be a useful and simple tool in daily clinical practice. Or to say it with other words from Dublin: in part, we might indeed *have found what we were looking for*. It further reminds us that you do not always have to look for something new. Sometimes, looking back at the old can lead to success, too. That is as simple as it can get. And sometimes, that's best.

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